

ABSTRACT OF THE INVENTION

Low-cost haptic interface device implementations for interfacing a user with a host computer. A haptic feedback device, such as a mouse or other device, includes a housing physically contacted by a user, and an actuator for providing motion that causes haptic sensations on the device housing and/or on a movable portion of the housing. The device may include a sensor for detecting x-y planar motion of the housing. Embodiments include actuators with eccentric rotating masses, buttons having motion influenced by various actuator forces, and housing portions moved by actuators to generate haptic sensations to a user contacting the driven surfaces.